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15. (Amended) The fluid system of claim 9 including a diverter valve operatively disposed between the rod end port of the first fluid cylinder and the second vented load check valve and operatively connected to the head end port of the first fluid cylinder, the diverter valve is biased to a position to permit fluid flow between the rod end port of the first fluid cylinder and the second vented load check valve and block fluid flow from the head end port to pass therethrough by a mechanical biasing mechanism and the pressure of the fluid in the rod end port of the first fluid cylinder, the diverter valve is movable to a second position at which the flow from the rod end port is diverted towards the reservoir and the flow from the head end port is permitted to pass therethrough towards the reservoir, the diverter valve is movable towards the second position in response to the pressurized fluid in the head end port of the first fluid cylinder.

REMARKS

Reconsideration of the claims is respectfully requested. Claims 1-16 remain in this application. Claims 1,2,4,6-8,11-13 and 15 have been amended to overcome rejections under 35 USC 112. Applicants greatly appreciate the Examiner's indication of the allowability of claims 2-3 and 9-16 if rewritten to overcome the rejections under 35 USC 112 and to include the limitations of the base claim and any intervening claims. However, Applicants believe that all of the claims are allowable over the art of record as set forth below. Applicants respectfully reserve the right to accept the indicated allowable subject matter pending the Examiner's review of the following response. No new matter has been added by this amendment.

Claims 2-16 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as the invention. Applicants appreciate the Examiner's indication of several places in the claims where 'end' should be replaced with 'end port' and a clarifying reference to the proper 'fluid cylinder'. As set forth above, these areas have been amended.

The Examiner states that in claim 6, lines 11 and 15, "second" should be -- first --, to agree with the specification. According to Applicants' records, claim 6, as filed in

the subject CIP application, does state 'first' not 'second' in both occurrences. If the Examiner's records indicate otherwise, Applicants will amend after allowance or the Examiner is hereby authorized to amend by Examiner's amendment.

Claim 1 was rejected under 35 USC 102(b) as being clearly anticipated by either Kropp or Nakamura. The Examiner did not set forth his reason(s) for the rejection. Applicants respectfully disagree with the Examiner's position. After a thorough review of both references, it is clear that neither of them teach or suggest that which is claimed by the Applicants. More specifically, the Applicants submit, with respect to the first directional control valve, that "... in the second operable position the supply port is in communication with the first outlet port and the second outlet port is in communication with the supply port ..." In both Kropp and Nakamura, there is no teaching in any of the operative positions where the supply port is in communication with the first outlet port and the second outlet port is in communication with the supply port. In both of the cited references, when the supply port is in communication with one outlet port, the other outlet port is in communication with the tank or reservoir. In view of the above, neither of the references anticipate the limitation of the invention set forth in claim 1.

Claims 1 and 4-8 were rejected under 35 USC 103 as being unpatentable over Johnson in view of Kropp. The Examiner states that Johnson has all of the elements claimed but does not disclose that there is a second fluid circuit connected to the pressure source. In fact, in the Examiner's comments he states that "... when in a first position, the supply and exhaust ports communicate with the second and first ports, respectively, and when in a second position, the supply and exhaust ports communicate with the first and second ports respectively; but does not disclose that there is a second fluid circuit connected to the pressure source, in parallel, and identical to, the first fluid circuit." Applicants are not claiming two circuits that are identical. Applicants' circuits are connected in parallel with the source of pressurized fluid but the first and second directional control valves 24,78 are different as set forth above, i.e., in the second operable position of the first directional valve the supply port is in communication with the first outlet port and the second outlet port is in communication with the supply port. In the second operable position of the second directional control valve of Applicants' invention, the second outlet port is in communication

with the tank or reservoir. The Examiner further suggests that Applicants' purpose is to connect two identical circuits in parallel with a common source of pressurized fluid on the same machine for multiple actuators. The Applicants disagree with the Examiner's position. At least one purpose of Applicants' invention is to have pressure equalization when operating the fluid system in a regeneration mode.

In view of the above, it is clear that the references cited do not singularly or in combination teach or make obvious the invention claimed herein. It appears that the Examiner believes that Applicants have claimed two identical circuits connected in parallel with a source of pressurized fluid. From a closer review of the claims, the Examiner will see that the two circuits are different.

It is respectfully urged that the subject application is in condition for allowance and allowance of the application at issue is respectfully requested.

Respectfully submitted,

Steven M. Hanley
Registration No. 46,756
Attorney
Caterpillar Inc.

Telephone: (309) 636-1843
Facsimile: (309) 675-1236

Marked Up Copy of Amendments pursuant to 37 CFR 1.121

Title: HYDRAULIC CIRCUIT HAVING PRESSURE EQUALIZATION DURING RENGERATION
Application No. 09/464,497
Attorney Docket No. 99-120.4

1. (Amended) A fluid system having a single source of pressurized supply fluid that receives fluid from a reservoir and being operable to control multiple loads, the fluid system comprising:

a first fluid circuit connected to the single source of pressurized supply fluid and having a first directional control valve connected to a first fluid cylinder having head end and rod end ports, the first directional control valve having a supply inlet port connected to the single source of pressurized fluid, first and second outlet ports connected to the respective head end and rod end ports of the first fluid cylinder, and an exhaust port connected to the reservoir; the first directional control valve being movable between a center position and first and second operable positions; in the center position, the supply port, the first and second outlet ports and the exhaust port are blocked from one another; in the first operable position, the supply port is in communication with the second outlet port and the first outlet port is in communication with the exhaust port; and in the second operable position the supply port is in communication with the first outlet port and the second outlet port is in communication with the supply port; and

a second fluid circuit connected to the single source of pressurized supply fluid in parallel with the first fluid circuit and having a second directional control valve connected to a second fluid cylinder having head end and rod end ports, the second directional control valve having a supply inlet port connected to the single source of pressurized fluid, first and second outlet ports connected to respective head end and rod end ports of the second fluid cylinder, and an exhaust port connected to the reservoir; the directional control valve being movable between a center position and first and second operable positions; in the center position the supply port is blocked from the first and second outlet ports and the head end and rod end ports are blocked from the exhaust port; in the first operable position the supply port is in communication with the second outlet port and the first

outlet port is in communication with the exhaust port; and in the second operable position the supply port is in communication with the first outlet port and the second outlet port is in communication with the exhaust port.

2. (Amended) The fluid system of claim 1 including a diverter valve operatively connected between the head end port of the first fluid cylinder and the reservoir, the diverter valve being biased to a flow blocking position by a mechanical biasing mechanism and the pressure in the rod end port of the first fluid cylinder and movable towards a flow passing position in response to pressurized fluid in the head end port of the first fluid cylinder.

4. (Amended) The fluid system of claim 1 including a first vented load check valve disposed between the first outlet port of the first directional control valve and the head end port of the first fluid cylinder and a second vented load check valve disposed between the second outlet port of the first directional control valve and the rod end port of the first fluid cylinder.

6. (Amended) The fluid system of claim 5 wherein the first and second vented load check valves each have pressure chambers that are in communication with the respective head and rod [ends] end ports of the first fluid cylinder through orificed conduits and the pilot control system includes respective first and second two-position valves spring biased to a closed position and each disposed between the respective pressure chambers and the reservoir, the first two-position valve being movable to a flow passing position in response to pressurized pilot fluid being directed to one end of the first directional control valve, and the second two-position valve being movable to its flow passing position in response to pressurized pilot fluid being directed to the other end of the first directional control valve.

7. (Amended) The fluid system of claim 6 including a third vented load check valve disposed between the first outlet port of the second directional control valve and

the head end port of the second fluid cylinder and a fourth vented load check valve disposed between the second outlet port of the second directional control and the rod end port of the second fluid cylinder.

8. (Amended) The fluid system of claim 7 wherein the third and fourth vented load check valves each have pressure chambers that are in communication with the respective head and rod [ends] end ports of the second fluid cylinder through orificed conduits and the pilot control system includes respective third and fourth two-position valves spring biased to a closed position and each disposed between the respective pressure chambers and the reservoir, the third two-position valve being movable to a flow passing position in response to pressurized pilot fluid being directed to one end of the second directional control valve, and the fourth two-position valve being movable to its flow passing position in response to pressurized pilot fluid being directed to the other end of the second directional control valve.

11. (Amended) The fluid system of claim 10 including a diverter valve operatively connected between the head end port of the first fluid cylinder and the reservoir and a relief valve disposed between the diverter valve and the reservoir, the diverter valve being biased to a flow blocking position by a mechanical biasing mechanism and the pressure in the rod end port of the first fluid cylinder and movable towards a flow passing position in response to pressurized fluid in the head end port of the first fluid cylinder.

12. (Amended) The fluid system of claim 11 including a second diverter valve operatively connected between the rod end port of the first fluid cylinder and the reservoir, the second diverter valve being biased to a flow blocking position by a second mechanical biasing mechanism having a biasing force greater than the mechanism biasing force of the first diverter valve and the pressure in the rod end port of the first fluid cylinder and movable towards a flow passing position in response to pressurized fluid in the head end port of the first fluid cylinder.

13. (Amended) The fluid system of claim 10 including a diverter valve operatively connected between the head end port and the rod end port respectively of the first fluid cylinder and the reservoir through respective diverter valve head end and rod end exhaust ports, the diverter valve is movable between a flow blocking at which the respective head end and rod [ends] end ports of the first fluid cylinder are blocked from the respective head end and rod end exhaust ports and a flow passing position at which the respective rod and head [ends] end ports of the first fluid cylinder are open to the respective head end and rod end exhaust ports, the diverter valve being biased to a flow blocking position in response to a mechanical biasing mechanism and the pressure in the rod end port of the first fluid cylinder and movable to a flow passing position in response to pressurized fluid in the head end port of the first fluid cylinder.

15. (Amended) The fluid system of claim 9 including a diverter valve operatively disposed between the rod end port of the first fluid cylinder and the second vented load check valve and operatively connected to the head end port of the first fluid cylinder, the diverter valve is biased to a position to permit fluid flow between the rod end port of the first fluid cylinder and the second vented load check valve and block fluid flow from the head end port to pass therethrough by a mechanical biasing mechanism and the pressure of the fluid in the rod end port of the first fluid cylinder, the diverter valve is movable to a second position at which the flow from the rod end port is diverted towards the reservoir and the flow from the head end port is permitted to pass therethrough towards the reservoir, the diverter valve is movable towards the second position in response to the pressurized fluid in the head end port of the first fluid cylinder.